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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,382	04/03/2001	Min Suk Suh	2080-3-11	1656

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EXAMINER

O NEILL, GARY W

ART UNIT PAPER NUMBER

2873

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,382

Applicant(s)

SUH, MIN SUK

Examiner

Gary O'Neill

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☒ Other: *Detailed Action*

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Korea on 4/3/00. It is noted, however, that applicant has not filed a certified copy of the 2000-17362 application as required by 35 U.S.C. 119(b).

Drawings

2. Figure 1A and 1B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 11 is generally narrative and indefinite, failing to conform with current U.S. practice. It appears to be a literal translation into English from a foreign document and is

replete with grammatical and idiomatic errors. Claims 12-15 inherit the indefiniteness of claim 11.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5, 8-11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiba et al. (5146441) in view of Ohnuki (4592037).

Akiba et al. discloses, as in claim 1, an optical pick-up actuator (fig.1) including: a lens holder (16) having a objective lens (16a) and tracking and focusing coils (col.3, lines 15-25); a frame (13) which is connected to a predetermined fixed end portion through a shaft (9a) and has a suspension means (14) for supporting said lens holder;

Akiba et al. does not teach a magnetic circuit for tilting motion which drives said lens holder in a predetermined direction other than focusing and tracking directions.

Within the same field of endeavor (optical pick-ups) Ohnuki discloses (fig.10) a magnetic circuit (15) for tilting motion (col.6, lines 39-43) which drives said lens holder in a predetermined direction (y) other than focusing and tracking directions.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the magnetic circuit for tilting motion of Ohnuki with the optical pick-up of Akiba et al. for the purpose of allowing independent movement in three directions while maintaining an overall compact size.

Ohnuki discloses as in claim 2, an optical pick-up actuator wherein said magnetic circuit for tilting motion generates an magnetic field independent from (col.2, lines 57-65) that of the magnetic circuit for tracking and focusing and drives said lens holder in said predetermined direction other than the focusing and tracking directions by driving said frame (fig.10).

Ohnuki discloses as in claim 3, an optical pick-up actuator wherein said frame is driven in magnetic fields for tilt motion (fig.10) such that said lens holder is driven in a predetermined direction (y).

Ohnuki discloses as in claim 4, an optical pick-up actuator wherein said magnetic circuit for tilting motion is provided with pairs of coil and magnet means for generating a magnetic fields such that said frame is driven in said predetermined direction according to the electric currents flowing along said coil means (col.2, lines 46-65).

Akiba et al. discloses, as in claim 5, an optical pick-up actuator wherein said frame is driven in tilt motion through said shaft (9a).

Akiba et al. discloses, as in claim 8, an optical pick-up actuator wherein said predetermined end portion is a yoke (11).

Ohnuki discloses as in claim 9, an optical pick-up actuator wherein said tilt motion occurs in radial and/or tangential directions (col.5, lines 40-45).

Ohnuki discloses as in claim 10, an optical pick-up actuator wherein said frame is elastically supported onto a damper means made of rubber material (col.8, lines 13-35).

Akiba et al. discloses, as in claim 11, an optical pick-up actuator (fig.1) including: a lens holder (16) suspended in a magnetic field (12) by a suspension wire (14) and having tracking and focusing coils (col. 3, lines 15-25) and objective lens (16a); a frame (13)

which is connected to a predetermined fixed end portion through a shaft (9a) and has a suspension means (14) for supporting said lens holder;

Akiba et al. does not teach a magnetic circuit for tilting motion comprised of a coil means mounted at an end portion of said frame and a magnet means cooperatively provided for tilting motion thereby bending and twisting said shaft.

Within the same field of endeavor (optical pick-ups) Ohnuki discloses (fig. 10) a magnetic circuit for tilting motion comprised of a coil means (15) mounted at an end portion of said frame and a magnet means (19) cooperatively provided for tilting motion thereby bending and twisting said shaft (col.6, lines 39-43).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the magnetic circuit for tilting motion of Ohnuki with the optical pick-up of Akiba et al. for the purpose of allowing independent movement in three directions while maintaining an overall compact size.

Ohnuki discloses as in claim 13, an optical pick-up actuator wherein said tilt motion occurs in radial and/or tangential directions (col.5, lines 40-45).

Ohnuki discloses as in claim 14, an optical pick-up actuator wherein said frame is elastically supported onto a damper means made of rubber material (col.8, lines 13-35).

Akiba et al. discloses, as in claim 15, an optical pick-up actuator wherein said predetermined end portion is a yoke (11).

8. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiba et al. (5146441) in view of Ohnuki (4592037) as applied to claim 5 above, and further in view of Kime et al. (5182739).

9. Akiba et al. (5146441) in view of Ohnuki (4592037), disclose the claimed invention including a shaft as cited above except for bearing means as in claim 6, and a rigid material for making said shaft, as cited in claim 7.

Within the same field of endeavor (optical pick-ups), Kime et al. provides disclosure of an optical pickup (fig.3) having a stainless steel shaft (20) with bearings (col.1, lines 33-42).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the steel shaft with support bearings of Kime et al. with the shaft of Akiba et al. in view of Ohnuki for the purpose of reducing friction during shaft rotation, as is well known in the art.

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akiba et al. (5146441) in view of Ohnuki (4592037) as applied to claim 10 above, and further in view of Kime et al. (5182739).

11. Akiba et al. (5146441) in view of Ohnuki (4592037), disclose the claimed invention including a shaft as cited above except for support for said shaft by a bearing means as in claim 16.

Within the same field of endeavor, Kime et al. provides disclosure of an optical pickup (fig.3) having a shaft (20) supported with bearings (col.1, lines 33-42).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the shaft with support bearings of Kime et al. with the shaft of Akiba et al. in view of Ohnuki for the purpose of reducing friction during shaft rotation, as is well known in the art.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akiba et al. (5146441) in view of Ohnuki (4592037) as applied to claim 11 above, and further in view of Kime et al. (5182739).

13. Akiba et al. (5146441) in view of Ohnuki (4592037), disclose the claimed invention including a shaft as cited above except for a rigid material for making said shaft, as cited in claim 12.

Within the same field of endeavor, Kime et al. provides disclosure of an optical pickup (fig.3) having a stainless steel shaft (20).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the rigid stainless steel shaft of Kime et al. for the shaft of Akiba et al. in view of Ohnuki for the purpose of maintaining structural integrity during shaft rotation, as is well known in the art.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are being cited for disclosing optical pickup apparatus having multidirectional movement: Narumi (4561079); Kim et al. (2002/0071358); Yokoyama et al. (6501710); and Haruguchi et al. (2003/0016597).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary O'Neill whose telephone number is 703-306-4828. The examiner can normally be reached on Monday - Thursday, 6:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y Epps can be reached on 703-308-4883. The fax phone numbers for


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the organization where this application or proceeding is assigned are 703-308-7725 for regular communications and 703-308-7725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Gary O'Neill
Examiner
Art Unit 2873

GO
February 10, 2003



Georgia Epps
Supervisory Patent Examiner
Technology Center 2800